

SAFETY DATA SHEET

Version 6.2
Revision Date 27.02.2020
Print Date 05.07.2021

SECTION 1: Identification of the hazardous chemical and of the supplier

1.1 Product identifiers

Product name : Sodium cyanide

Product Number : 205222
Brand : SIGALD
CAS-No. : 143-33-9

1.2 Other means of identification

No data available

1.3 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

1.4 Details of the supplier of the safety data sheet

Company : SIGMA-ALDRICH (M) SDN BHD
Level 3, Menara Sunway Annexe,
Jalan Lagoon Timur, Bandar Sunway,
46150 PETALING JAYA, SELANGOR
MALAYSIA

Telephone : +60 (603)03-563-53321
Fax : +60 (603)03-563-54116

1.5 Emergency telephone number

Emergency Phone # : 1-800-815-308 (CHEMTREC) * + 62 0800
140 1253 (Customer Call Centre)

Section 2: Hazard identification

2.1 GHS Classification

Classification according to CLASS regulations 2013
Corrosive to metals (Category 1), H290
Acute toxicity, Oral (Category 2), H300
Acute toxicity, Inhalation (Category 1), H330
Acute toxicity, Dermal (Category 1), H310
Specific target organ toxicity - repeated exposure (Category 1), Thyroid, H372
Hazardous to the aquatic environment - acute hazard (Category 1), H400
Hazardous to the aquatic environment - chronic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Labelling according to CLASS regulations 2013

Pictogram



Signal word

Danger

Hazard statement(s)
H290 May be corrosive to metals.
H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.
H372 Causes damage to organs (Thyroid) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing.

Response

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P302 + P350 + P310 IF ON SKIN: Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/ physician.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P361 Remove/ Take off immediately all contaminated clothing.
P391 Collect spillage.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Contact with acids liberates very toxic gas.

SECTION 3: Composition and information of the ingredients of the hazardous chemical

Substance / Mixture : Substance

3.1 Substances

Formula : CNNa
Molecular weight : 49.01 g/mol
CAS-No. : 143-33-9
EC-No. : 205-599-4
Index-No. : 006-007-00-5

Hazardous components

Component	Classification	Concentration
Sodium cyanide	Met. Corr. 1; Acute Tox. 2; Acute Tox. 1; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H290, H300, H330, H310, H372, H400, H410	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry powder Dry sand

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sodium oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Never allow product to get in contact with water during storage. Do not store near acids.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls and personal protection

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Sodium cyanide	143-33-9	CEIL	5 mg/m ³	Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.
	Remarks	Skin		

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--|--------------------------------------|
| a) Appearance | Form: crystalline
Colour: white |
| b) Odour | odourless |
| c) Odour Threshold | No data available |
| d) pH | 11.0 - 12.0 at 49.0 g/l at 25 °C |
| e) Melting point/freezing point | Melting point/range: 563.7 °C - lit. |
| f) Initial boiling point and boiling range | 1,500 °C at 1.013 hPa |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or | No data available |

- explosive limits
- k) Vapour pressure 1 hPa at 817 °C
 - l) Vapour density No data available
 - m) Relative density 1.59 kg/m³ at 20 °C
 - n) Water solubility 370 g/l at 20 °C - completely soluble
 - o) Partition coefficient: Not applicable for inorganic substances
n-octanol/water
 - p) Auto-ignition No data available
temperature
 - q) Decomposition No data available
temperature
 - r) Viscosity No data available
 - s) Explosive properties No data available
 - t) Oxidizing properties No data available

9.2 Other safety information

Dissociation constant ca.9.36 at 20 °C
- OECD Test Guideline 112

SECTION 10: Stability and reactivity

10.1 Reactivity

Contact with acids liberates very toxic gas.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Do not store near acids., Strong oxidizing agents, Carbon dioxide (CO₂)

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sodium oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - 5.09 mg/kg

Remarks: (ECHA)

LC50 Inhalation - Rat - male - 1 h - 63 ppm
(OECD Test Guideline 403)

Remarks: (in analogy to similar products)

LD50 Dermal - Rabbit - female - 7.35 mg/kg

Remarks: (ECHA)

LD50 Dermal - Rabbit - 10.4 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Tremor. Lungs, Thorax, or Respiration:Dyspnea.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Ames test

Salmonella typhimurium

Result: negative

US-EPA

Rat

Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure. - Thyroid

Aspiration hazard

No data available

Additional Information

RTECS: VZ7525000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	flow-through test LC50 - <i>Gasterosteus aculeatus</i> - 0.0988 mg/l - 96 h Remarks: (referred to cyanide ions)(ECHA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - <i>Chironomus riparius</i> (harlequin fly) - 0.012 mg/l - 48 h (OECD Test Guideline 202) semi-static test NOEC - <i>Chironomus riparius</i> (harlequin fly) - 0.006 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae EC50 - Nitzschia closterium - 0.051 mg/l - 72 h

Toxicity to bacteria EC50 - Bacteria - 4.9 mg/l - 6 h
Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 42 d
Result: ca.99 % - Inherently biodegradable.
Remarks: (ECHA)

Chemical Oxygen Demand (COD) 816 mg/g
Remarks: (IUCLID)

Ratio BOD/ThBOD 6 %

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal information

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transportation information

14.1 UN number

ADR/RID: 1689 IMDG: 1689 IATA-DGR: 1689

14.2 UN proper shipping name

ADR/RID: SODIUM CYANIDE, SOLID
IMDG: SODIUM CYANIDE, SOLID
IATA-DGR: Sodium cyanide, solid

14.3 Transport hazard class(es)

ADR/RID: 6.1 IMDG: 6.1 IATA-DGR: 6.1

14.4 Packaging group

ADR/RID: I IMDG: I IATA-DGR: I

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA-DGR: no

14.6 Special precautions for user

None

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The life science business of Merck operates as MilliporeSigma in the US and Canada



14.7 Incompatible materials

Do not store near acids., Strong oxidizing agents, Carbon dioxide (CO2)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Notification status

AICS:	On the inventory, or in compliance with the inventory
DSL:	All components of this product are on the Canadian DSL
ENCS:	On the inventory, or in compliance with the inventory
ISHL:	On the inventory, or in compliance with the inventory
KECI:	On the inventory, or in compliance with the inventory
NZIoC:	On the inventory, or in compliance with the inventory
PICCS:	On the inventory, or in compliance with the inventory

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Further information

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